CLAIMS

1. A method of operating a device having at least one solid-state memory and at least one spinning media memory for storing data, the method comprising:

from time-to-time, determining whether the device is in motion; and

in response to determining that the device is not in motion, transferring frequently accessed data between the spinning media memory and the solid-state memory.

2. The method of claim 1 wherein transferring frequently accessed data between the spinning media memory and the solid-state memory occurs only when the device is determined not to be in motion.

3. The method of claim 1 wherein transferring frequently accessed data between the spinning media memory and the solid-state memory includes writing data from the spinning media memory to the solid-state memory.

4. The method of claim 1 wherein transferring frequently accessed data between the spinning media memory and the solid-state memory includes writing data from the solid-state memory to the spinning media memory.

5. The method of claim 1 wherein transferring frequently accessed data between the spinning media memory and the solid-state memory includes:

removing less frequently accessed data from the solid-state memory; and

copying more frequently accessed data from the spinning media memory to the solid-state memory.

6. The method of claim 1 wherein transferring frequently accessed data between the spinning media memory and the solid-state memory includes:

removing less frequently accessed data from the solid-state memory; and

copying more frequently accessed data from the spinning media memory to the solid-state memory, if the more frequently accessed data is not already in the solid-state memory.

7. The method of claim 1, further comprising:

tracking frequency access information for the data.

8. The method of claim 1, further comprising:

sensing at least one of a velocity and an acceleration of the device, and wherein determining whether the device is in motion is based at least in part on one of the sensed velocity and acceleration.

9. The method of claim 1, further comprising:

receiving a request for data;

determining whether the requested data is in the solid-state memory; and

in response to determining that the requested data is in the solid-state memory, providing the requested data from the solid-state memory.

10. The method of claim 1, further comprising:

receiving a request for data;

determining whether the requested data is in the solid-state memory;

in response to determining that the requested data is not the solid-state memory,

determining whether the device is in motion; and

in response to determining that the requested data is not in solid-state memory and that the device is not in motion, providing the requested data from the spinning media memory.

11. The method of claim 1, further comprising:

receiving a request for data;

determining whether the requested data is in the solid-state memory;

in response to determining that the requested data is not the solid-state memory,

determining whether the device is in motion; and

in response to determining that the requested data is not in solid-state memory and that the device is not in motion, providing the requested data from the spinning media memory; and

updating frequency access information.

12. The method of claim 1, further comprising:

receiving a request for data;

determining whether the requested data is in the solid-state memory; and

in response to determining that the requested data is not the solid-state memory,

determining whether the device is in motion; and

in response to determining that the requested data is not in solid-state memory and that the device is in motion, producing a user notification that the requested data is not available while the device is in motion.

13. The method of claim 1, further comprising:

receiving a request for data;

determining whether the requested data is in the solid-state memory;

in response to determining that the requested data is not the solid-state memory,

determining whether the device is in motion; and

in response to determining that the requested data is not in solid-state memory and that the device is in motion, producing a user notification that the requested data should not be accessed while the device is in motion.

14. The method of claim 1, further comprising:

receiving a request for data;

determining whether the requested data is in the solid-state memory; and

in response to determining that the requested data is not the solid-state memory,

determining whether the device is in motion;

in response to determining that the requested data is not in solid-state memory and that the device is in motion, producing a user notification that the device should be stopped before retrieving the requested data;

receiving a user override input; and

in response to the received user override input, retrieving the requested data from the spinning media memory.

15. The method of claim 1, further comprising:

receiving a request for data;

determining whether the requested data is in the solid-state memory; and

in response to determining that the requested data is not the solid-state memory,

determining whether the device is in motion;

in response to determining that the requested data is not in solid-state memory and that the device is in motion, producing a user notification that the device should be stopped before retrieving the requested data;

receiving a user override input;

in response to the received user override input, copying the requested data from the spinning media memory to the solid-state memory; and

providing the requested data from the solid-state memory.

16. The method of claim 1, further comprising:

receiving data to store;

storing the data to the solid-state memory;

determining whether the device is in motion;

waiting until the device is determined not to be in motion; and

storing the data to the spinning media memory when the device is determined not to be in motion.

17. The method of claim 1, further comprising:

receiving data to store;

determining whether the solid-state memory is full;

in response to determining that the solid-state memory is full, determining whether the device is in motion; and

in response to determining that the device is not in motion, storing the data to the spinning media memory.

18. The method of claim 1, further comprising:

receiving data to store;

determining whether the solid-state memory is full;

in response to determining that the solid-state memory is full, determining whether the device is in motion; and

in response to determining that the device is in motion, providing a user message that device must be stopped to store the data.

19. The method of claim 1, further comprising:

receiving data to store;

determining whether the solid-state memory is full;

in response to determining that the solid-state memory is full, determining whether the device is in motion;

in response to determining that the device is in motion, providing a user message that device should be stopped to store the data;

receiving a user override input; and

in response to receiving the user override input, storing the data to the spinning media memory.

20. The method of claim 1, further comprising:

disabling the spinning media memory while the device is determined to be in motion.

21. An apparatus for use with a device, the apparatus comprising:

at least one solid-state memory;

at least one spinning media memory; and

a controller configured to transfer frequently accessed data between the spinning media memory and the solid-state memory when the device is not in motion.

22. The apparatus of claim 21, further comprising:

a motion sensor coupled to provide motion information to the controller from which the controller can determine whether the device is in motion.

23. The apparatus of claim 21, further comprising:

a motion sensor coupled to provide at least one of velocity and acceleration information to the controller from which the controller can determine whether the device is in motion.

24. The apparatus of claim 21 wherein the device is a vehicle.

25. The apparatus of claim 21 wherein the device is a vehicle and the apparatus is incorporated into a general-purpose computing system carried by the vehicle.

26. The apparatus of claim 21 wherein the device is a vehicle and the apparatus is part of an automatic data collection unit carried by the vehicle.

27. The apparatus of claim 21 wherein device is a user carried automatic data collection unit and the apparatus is incorporated into the user carried automatic data collection unit.

28. The apparatus of claim 21 wherein device is a user carried general purpose computing system and the apparatus is incorporated into the user carried general purpose computing system.

29. The apparatus of claim 21 wherein device is a general purpose computing system including a microprocessor, and the apparatus is coupled to the microprocessor via a bus interface.

30. The apparatus of claim 21 wherein device is a general purpose computing system including a microprocessor and random access memory, and the controller of the apparatus is implemented in the microprocessor of the general-purpose computer and the solid-state memory is implemented in a random access memory of the general purpose computer.

31. An apparatus for use with a device, the apparatus comprising:

at least one spinning media memory for storing data;

at least one solid-state memory;

means for determining, from time-to-time, whether the device is in motion; and

means responsive to a determination that the device is not in motion, means for transferring frequently accessed data between the spinning media memory and the solid-state memory when the device is determined not to be in motion.